Chichester Trunk Gravity Main

Pipeline in Hunter Valley NSW, Australia

Project Need

The Chichester Trunk Gravity Main (CTGM) is an 85km pipeline that conveys water from Chichester Dam to the Lower Hunter, as well as supplying a number of communities along the way. It provides approximately 40% of the water to the major population centers of Newcastle and the Hunter Valley Coalfields.

The existing watermain is approximately 90 years old and comprises jointed 'locking bar' pipe. As the pipeline ages the risk of leaks occurring increases. The original pipeline was constructed using lead collars in the joints. These lead joints do not affect the quality of water transported within the pipe, however, they may have increased the concentration of lead found in the soil beneath the pipe. The existing pipeline is located close to a school and residential homes, and community members would be inconvenienced by a water leak and by work crews making repairs.

Solution

Hunter Water Corporation selected Steel Mains SINTAKOTE® cement mortar lined steel pipe as the ideal product for the pipeline. Steel Mains supplied SINTAJOINT® elastomeric ring joint (RRJ) and SINTALOCK® - Type I joint pipes in various pipe diameters (813mm, 960mm, 1219mm) and associated fittings for this pipeline project from 2009 to 2011 over various stages. The SINTALOCK® - Type I joint incorporates a Rubber Ring joint with an external fillet weld only. The pipes were mainly manufactured in 13.5 metre overall lengths from 10mm and 8mm wall thickness, 300 MPa grade steel. The pipeline was constructed with mild steel, Sintakote fusion bonded polyethylene coated, cement lined pipe complying with Australian Standards AS1579, AS4321 and AS1281.

Achievements

Steel Mains manufactured and delivered SINTAJOINT® rubber ring joint pipewhere on-site welding was virtually eliminated. Using the SINTALOCK® Type-I joint for other pipeline sections meant that the construction contractor was only required to weld the pipes externally, with no confined space access for internal welding or joint reinstatement required, thereby improving pipe laying efficiencies and construction safety. Our Sintakote® coated SINTAJOINT® & SINTALOCK® pipes also provided Hunter Water with the confidence that these pipes would provide a service life beyond 100 years, securing water supplied for those in the region.

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Project: Chichester Trunk Gravity Main

Principal: Hunter Water Corporation

Location: Hunter Valley NSW

Completion: 2009 - 2011

Supplied: 7.7km of SINTAKOTE®, SINTAJOINT® & SINTALOCK® MSCL pipe and associated fittings in various diameters (2.5km x 813OD, 2.5km x 960OD, 2.75km x 1219OD)